

Notice of Allowability

Application No.

10/526,872

Examiner

James L. Habermehl

Applicant(s)

CUMPSON ET AL.

Art Unit

2651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to papers filed 4 Mar 05 and 16 Sep 05.
2. ☒ The allowed claim(s) is/are 1-9, renumbered 1-2,4,3, and 5-9 respectively.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>4 Mar 05 and 16 Se</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

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1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Steven Petersen on 20 March 2006.

The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A reformatted abstract of the disclosure is herein presented by examiner's amendment and another copy is also attached to this Office action on a separate sheet, apart from any other text. The application has been amended as follows:

In the Abstract:

Replace the current text with the following:

--A method and apparatus for managing power consumption of consumer electronic devices that run on a battery or an accumulator, particularly portable applications such as mobile phones, laptops or MPEG players or recorders. They consist essentially of a host and a storage medium like a disk or means for receiving a storage medium like a disk drive that are coupled with an interface. Power management is very important because long battery life enhances user convenience. The invention determines whether it is more efficient either to leave the disk drive

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in the idle mode or to switch the drive to standby until the next data request appears. The disk drive is entered into the most efficient power mode. The time until the next request is determined by the host.--

3. Claims 1-9 are allowed over the prior art of record. The following is an examiner's statement of reasons for allowance:

Claims 1 and 8 are allowable over the prior art of record since the cited references taken individually or in combination fails to particularly disclose a method or circuit for managing power consumption of a disk drive comprising entering the disk drive into the second operating mode when the second amount of power is less than the first amount of power, as presented in the environment of claims 1 and 8. It is noted that the closest prior art, Won et al., shows managing power consumption similar to applicant's invention. However, Won et al. fails to disclose entering the disk drive into the second operating mode when the second amount of power is less than the first amount of power as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yokoe shows a power management system very similar to applicant's invention. Chu et al., Akagi et al., and Millikan et al. show reducing power consumption by monitoring

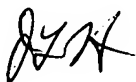
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buffer status similar to applicant's invention. Robbin et al., Silvester, Sasaki, Codilian et al., Veltchev et al., and Takagi et al. show power management features similar to applicant's invention.

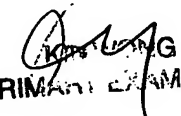
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James L. Habermehl whose telephone number is (571)272-7556. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on (571)272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Habermehl/jlh
20 Mar 06


PRIMARY EXAMINER

Sr SPE Hoa T. Nguyen

Abstract

A method and apparatus for managing power consumption of consumer electronic devices that run on a battery or an accumulator, particularly portable applications such as mobile phones, laptops or MPEG players or recorders. They consist essentially of a host and a storage medium like a disk or means for receiving a storage medium like a disk drive that are coupled with an interface. Power management is very important because long battery life enhances user convenience. The invention determines whether it is more efficient either to leave the disk drive in the idle mode or to switch the drive to standby until the next data request appears. The disk drive is entered into the most efficient power mode. The time until the next request is determined by the host.